

What claim:

1. A heat-resistant separator comprising:
a non-woven fabric of high-melting resin, said fabric being of
1 to 20 μm in average fiber diameter,
5 to 300 g/m^2 in basis weight,
1 to 200 $\text{cc/cm}^2/\text{sec}$ in air permeability, and
0.01 to 1.0 mm in thickness.
2. The heat-resistant separator according to Claim 1, having a real part impedance of 20 $\Omega\cdot\text{cm}^2$ or less at a frequency of 10 KHz and normal temperature.
3. The heat-resistant separator according to Claim 1 or 2, having a maximum real part impedance at a frequency of 10 KHz and 100 to 180 $^{\circ}\text{C}$ is 100 times or less of the real part impedance at normal temperature and 200 $\Omega\cdot\text{cm}^2$ or less in the absolute value.
4. The heat-resistant separator according to one of Claims 1 to 3, wherein said high-melting resin is selected from the group consisting of polyester, polyphenylene sulfide, polymethyl pentene and polyamide.
5. The heat-resistant separator according to Claim 4, wherein said polyester is polybutylene terephthalate.
6. The heat-resistant separator according to one of Claims 1 to 5, wherein said non-woven fabric is melt-blown.
7. A laminated heat-resistant separator comprising:
a laminate having a melt-blown, non-woven fabric layer of high-melting resin, wherein said fabric layer being of
1 to 20 μm in average fiber diameter,

5 to 300 g/m² in basis weight,
1 to 200 cc/cm²/sec in air permeability, and
0.01 to 1.0 mm in thickness.

8. The laminated heat-resistant separator according to Claim 7 composed of a melt-blown, non-woven fabric layer of high-melting resin and non-woven fabric layer having a shut-down function.

9. The laminated heat-resistant separator according to Claim 8, wherein said non-woven fabric layer having a shut-down function is of polyolefin.

10. A laminated heat-resistant separator of polyphenylene sulfide, comprising:
two or more laminated layers of melt-blown, non-woven fabric of polyphenylene sulfide, said fabric having
a fiber diameter of 2.0 to 8.0 μm ,
basis weight of 20 to 60 g/m²,
air permeability of 10 to 200 cc/cm²/sec,
thickness of 100 to 300 μm , and
strength of 10 N/50mm or more in the MD direction.

11. The laminated heat-resistant separator of polyphenylene sulfide according to Claim 10, wherein said melt-blown, non-woven fabric of polyphenylene sulfide for the laminated layers has an average fiber diameter of 2.0 to 8.0 μm , basis weight of 40 to 80 g/m², air permeability of 5 to 20 cc/cm²/sec, thickness of 100 to 180 μm , and strength of 40N/50mm or more in the MD direction.

12. The heat-resistant separator of one of Claims 1 to 11 which is used for a battery or capacitor.